

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: WILLAND POND	Lake Area (ha):	34.80
Town: SOMERSWORTH	Maximum depth (m):	11.2
County: Strafford	Mean depth (m):	4.7
River Basin: Coastal	Volume (m ³):	1627000
Latitude: 43°14' N	Relative depth:	1.7
Longitude: 70°53' W	Shore configuration:	1.29
Elevation (ft): 182	Areal water load (m/yr):	1.56
Shore length (m): 2700	Flushing rate (yr ⁻¹):	0.30
Watershed area (ha): 116.5	P retention coeff.:	0.84
% watershed ponded: 0.0	Lake type:	natural

BIOLOGICAL:

10 February 1988

31 August 1987

DOM. PHYTOPLANKTON (% TOTAL) #1	ASTERIONELLA 85%	DINOBRYON 45%
#2		CHRYOSOPHAERELLA 35%
#3		
PHYTOPLANKTON ABUNDANCE (cells/mL)		1150.0
CHLOROPHYLL-A (µg/L)		2.41
DOM. ZOOPLANKTON (% TOTAL) #1	KELLICOTTIA 43%	NAUPLII LARVAE 26%
#2	KERATELLA 29%	KERATELLA 22%
#3	POLYARTHRA 13%	VORTICELLA 20%
ROTIFERS/LITER	75	87
MICROCRUSTACEA/LITER	11	93
ZOOPLANKTON ABUNDANCE (#/L)	86	227
VASCULAR PLANT ABUNDANCE		Sparse
SECCHI DISK TRANSPARENCY (m)		
BOTTOM DISSOLVED OXYGEN (mg/L)	5.7	0.2
BACTERIA (fecal col., #/100 ml) #1		
#2		
#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 4.5
Hypolimnion volume (m³): 302500

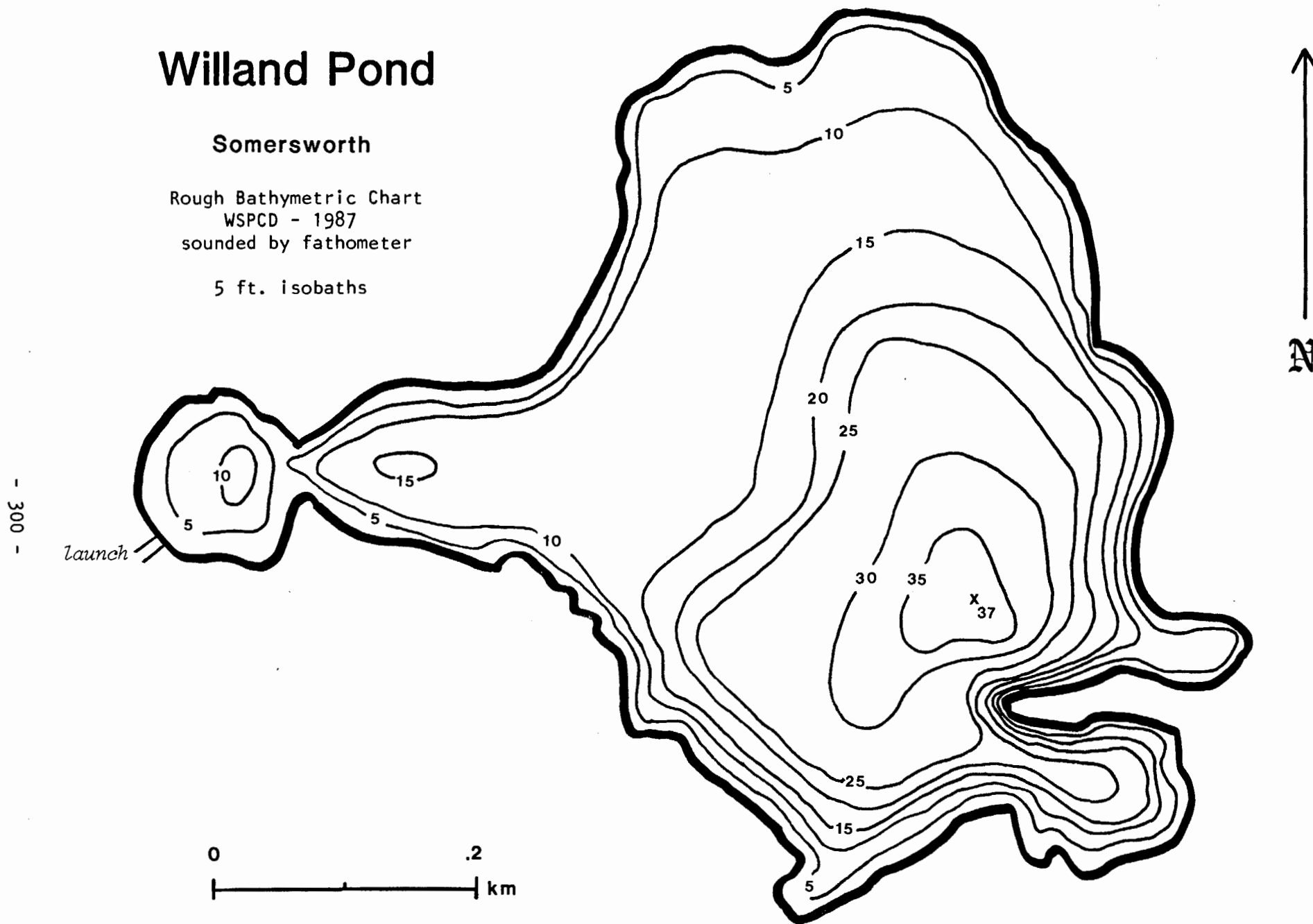
<u>CHEMICAL:</u>		Lake: WILLAND POND Town: SOMERSWORTH				
	10 February 1988		31 August 1987			
DEPTH (m)	4.0	8.0	1.5	4.5	8.0	
pH (units)	6.3	6.2	6.9	6.7	6.1	
A.N.C. (Alkalinity)	6.1	6.0	6.1	6.0	6.5	
NITRATE NITROGEN	0.06	0.11	< 0.05		0.10	
TOTAL KJELDAHL NITROGEN	0.27	0.21	0.84	0.42	0.17	
TOTAL PHOSPHORUS	0.005	0.009	0.014	0.013	0.023	
CONDUCTIVITY (μ mhos/cm)	99.9	99.5	99.5	99.2	93.4	
APPARENT COLOR (cpu)	24	28	34	34	62	
MAGNESIUM			0.94			
CALCIUM			4.1			
SODIUM			11.6			
POTASSIUM			1.50			
CHLORIDE	18	18	17		15	
SULFATE	11	10	9		8	
TN : TP	66	36	60		12	
CALCITE SATURATION INDEX			3.0			
All results in mg/L unless indicated otherwise						
<u>TROPHIC CLASSIFICATION: 1987</u>						
	D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
	6	**	0	0	**	Meso.
<u>COMMENTS:</u>						
<ol style="list-style-type: none"> 1. No Secchi disk reading was taken, but the pond would be rated mesotrophic based on personal observation of the water clarity (> 3 feet). 2. A network of well-worn trails surrounded the pond. 3. Pond is located in an urbanized area, although the northern shoreline is not developed. A few shopping carts were observed on shore and numerous beer cans were present in the water. 4. The whole-water phytoplankton was 65% greens and 20% cryptomonads. Dominant genera were tiny green flagellates (55%), <u>Cryptomonas</u> (10%) and <u>Chroomonas</u> (10%). 						

Willand Pond

Somersworth

Rough Bathymetric Chart
WSPCD - 1987
sounded by fathometer

5 ft. isobaths



FIELD DATA SHEET

LAKE: WILLAND POND	TOWN: SOMERSWORTH
DATE: 08/31/87	WEATHER: SUNNY. LIGHT BREEZE

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[illegible]

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BOTTOM DEPTH (m): 10.8

TIME: 1135

*Dissolved oxygen values are in mg/L

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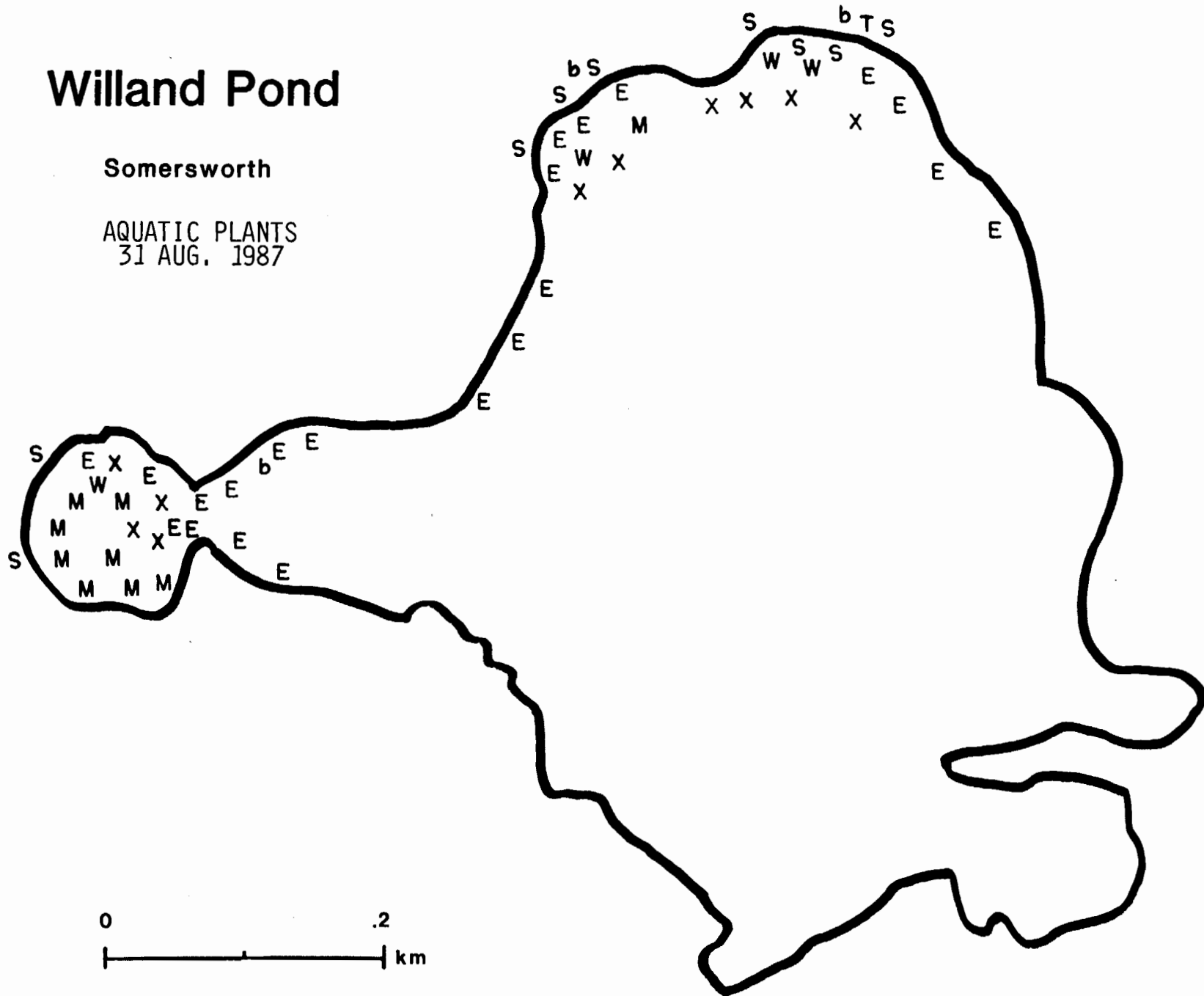
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Willand Pond

Somersworth

AQUATIC PLANTS
31 AUG. 1987



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